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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/814,472 | 03/29/2004 | Paul L. Corredoura | 10021250-1 | 8099 |

7590 01/16/2008
AGILENT TECHNOLOGIES, INC.
Legal Department, DL 429
Intellectual Property Administration
P.O. Box 7599
Loveland, CO 80537-0599

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| EXAMINER |
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BAYARD, EMMANUEL

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| ART UNIT | PAPER NUMBER |
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2611

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| MAIL DATE | DELIVERY MODE |
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01/16/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/814,472 | Applicant(s) CORREDOURA ET AL. | |
| | Examiner Emmanuel Bayard | Art Unit 2611 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang U.S. pub no 2005/0175130 in view of Webster et al U.S. Pub No 2003/0072284 A1.

As per claims 1, 3 and 5, Yang teaches an up converting circuit comprising: a clock for defining a sequence of input polyphase cycles line (see fig.2 element 202 and page 1, [0006]); a polyphase component generator that provides N_p polyphase components at each input polyphase cycle, wherein $N_p > 2$ (see fig.2 elements 204, 206 and page 1, [0006-0007]); a buffer is functionally equivalent to the claimed (a memory) that stores said polyphase components from at least one polyphase cycle prior to the current polyphase cycle (see fig.2 elements 208, 210 and page 1, [0008]); a plurality of filters, each filter processing a plurality of said polyphase components stored in said memory to generate a filtered polyphase component corresponding to that filter, wherein in any given input polyphase cycle, at least one of said filters processes a plurality of different polyphase components stored in said memory_ from a corresponding polyphase cycle (see fig.2 element 212 and page 1 [0006], [0008]).

However Yang does not teach a multiplexer that outputs said filtered polyphase components in a predetermined order to generate a filtered output signal.

Webster et al teaches a multiplexer that outputs said filtered polyphase components in a predetermined order to generate a filtered output signal (see figs.8a and 13 elements 809, 1305 and page 2 [0012] and page 7 [0061] and page 9 [0070]).

It would have been obvious to one of ordinary skill in the art to implement the teaching of Webster into Yang as to select an output filter as a second sample rate in order to achieve the desired rate and maintain phase, gain, frequency and timing alignment as taught by Webster (see abstract and page 8 [0063]).

As per claim 2, Yang teaches wherein each filter utilizes the same functional relationship to generate said filtered polyphase components (see page 8 [0062]).

As per claim 4, Webster teaches wherein said filters are finite impulse response filters (see page [0062]). Furthermore implementing such teaching into Yang would have been obvious to one skilled in the art as to select an output filter as a second sample rate in order to achieve the desired rate and maintain phase, gain, frequency and timing alignment for each multiple taps generate by the FIR filter as taught by Webster (see abstract and page 8 [0063]).

As per claim 6, Yang teaches wherein said polyphase component generator receives one pair of digital signals in each polyphase cycle (see fig.2).

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
4. Ekstrand U.S. Pub no 2003/0016772 A1 teaches an aliasing reduction using complex exponential modulated filter banks.

5. Gomez U.S. Pub No 2007/0268076 A1 teaches an apparatus and method for phase lock gain.
6. Darabi et al U.S. Pub No 2007/0285154 A1 teaches an adaptive radio transceiver.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is 571 272 3016. The examiner can normally be reached on Monday-Friday (7:Am-4:30PM) Alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571 272 3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

1/9/2008

Emmanuel Bayard
EMMANUEL BAYARD
PRIMARY EXAMINER

